

## Plate Tectonics

### Key Vocabulary

**Lithosphere**: The rigid crust and uppermost mantle of the earth.

**Hot spots**: Magma rich locations in the upper mantle that cause volcanic activity. Ex: Hawaii.

**Continental Drift**: Proposed by Alfred Wegener that continents drifted to their present locations from a super continent called Pangea. Evidence of this theory consisted of matching shorelines and fossil evidence. However, Wegener could not explain how the continents moved and his theory became controversial.

**Earthquakes + volcanoes**: Most earthquakes and volcanic eruptions do not strike randomly but occur in specific areas, such as along plate boundaries. One such area is the circum-Pacific *Ring of Fire*, where the Pacific Plate meets many surrounding plates. The Ring of Fire is the most seismically and volcanically active zone in the world.

**Fault**: Crack in the Earth's crust where movement has taken place.

**Sea Floor Spreading**: Sonar data was used to form three-dimensional models of the sea floor. There was then evidence that a mid-ocean ridge system wrapped around the earth. This looked like twin mountains with a rift valley in between. Magma would be forced up to the surface because it was less dense and create faults (cracks). As the magma continued to flow up it would spread the land apart.

**Convection**: The transfer of thermal energy in a fluid by the movement of fluid from place to place. The difference in densities between warm and cold fluids can cause currents as the warm less dense fluid rises and cools becoming denser and falls to the bottom, then warm and rise and so on.

**Theory of Plate Tectonics**: The theory that the earth's crust is broken into plates, some having continental crust, oceanic crust, or both. These plates move and interact along boundaries.